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*Response*  
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*g. Antes*

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of ) Art Unit: 2871  
Toshimitsu KONUMA et al. ) Examiner: D. Nguyen  
Serial No. 09/059, 562 )  
Filed: April 14, 1998 )  
For: LIQUID-CRYSTAL ELECTRO- )  
OPTICAL APPARATUS AND )  
METHOD OF MANUFACTURING )  
THE SAME )

**CERTIFICATE OF MAILING**

I hereby certify that this correspondence is being deposited with  
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Washington, D.C. 20231, on *5/15/02*

**RESPONSE**

Honorable Commissioner of Patents  
Washington, D.C. 20231

Sir:

The Official Action mailed January 15, 2002 has been received and its contents carefully noted. Filed herewith is a *Request for One Month Extension of Time*, which extends the period for response to May 15, 2002. Thus, it is respectfully submitted that this response is timely filed.

Claims 31-33, 38, 39, 49-51, 55-58, 65-67, 69, 99, 106-110 and 115-135 are pending in the present application. Paragraph 2 of the Official Action rejects claims 31, 32, 109, 120 and 124 as anticipated by U.S. Patent 4,796,979 to Tsuboyama. The Official Action maintains that Tsuboyama discloses the preset invention, but fails to give patentable weight to the limitation of the resin being formed by disposing a mixture of liquid crystal and a curable resin between the pair of substrates and curing the curable resin. Specifically, the Official Action asserts that these limitations do not further limit the structure of the device claims.

Applicants respectfully disagree and assert that this limitation should be given patentable weight. The application of the resin formed by the claimed process to a FLC/AFLC display device realizes a graduation display at high speed and with high contrast, because the resin prevents the adjacent liquid molecules from being inverted in a chain reactive manner, as a result of which the liquid crystal molecules or the extreme minute domains don't induce the inversion of the liquid crystal molecules around the inverted ones, but the respective liquid crystal molecules are independently inverted. This is described in the present specification on Page 39, line 28 through Page 40, line 3.

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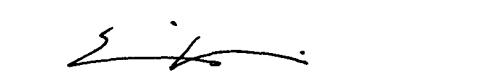
It is respectfully submitted that this portion of the specification make clear that the process recited in the claims results in a device having different structural characteristics. That is, the plurality of grains or resin in the form of a protrusion discussed in the specification is a significant structural feature that is achieved by the claimed process limitations. Thus, since the structural features of the present invention are distinguished over Tsuboyama, consideration of the process limitations and favorable reconsideration of these claims is requested.

Paragraph 4 of the Official Action rejects claims 33, 49-51, 55-58, 65-67, 110, 115, 121, 125, and 127 as obvious based on the combination of Tsuboyama '979 and U.S. Patent 4,775,225 to Tsuboyama. Paragraph 5 rejects claims 133-135 as obvious based on the combination of Tsuboyama '979 and U.S. Patent 5,221,980 to Yamamoto. It is respectfully submitted that these rejections do nothing to overcome the deficiencies noted above and that these claims are thus in condition for allowance for the same reasons as noted above. Specifically, the combination of Tsuboyama '979 and Tsuboyama '225 fail to disclose or suggest that the resin is formed by disposing a mixture of the liquid crystal and a curable resin between a pair of substrates as recited in the claims.

Paragraph 6 of the Official Action rejects claims 31-33, 38-39, 49-51, 55-58, 65-67, 69, 109-110, 115, 120-121, 124-127 and 133-135 are rejected under the doctrine of Obviousness-type double patenting based on U.S. Patent 5,594,569. Again, since applicant believes that the recited process limitation should be considered to give patentable weight to the present device, this rejection is believed to be overcome and favorable reconsideration is requested.

Should the Examiner believe that anything further would be desirable to place this application in better condition for allowance, the Examiner is invited to contact Applicant's undersigned attorney at the telephone number listed below.

Respectfully submitted,

  
Eric J. Robinson  
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